

## **HOV REPORT GUIDELINES**

*This report is designed specifically as a "stand alone" document to confirm with the requirements of Section 149 of the Streets and Highways Code and Section 21655.5 of the Vehicle Code. It is an attachment to the project report to address the effects of the HOV facility on safety, congestion and highway capacity.*

### **I. INTRODUCTION**

Describe project area and attach location map. The map should show the HOV system (if any) for the area, including existing HOV lanes, the proposed project and future HOV projects.

### **II. EXISTING CONDITIONS**

Discuss and quantify delay\* from recurrent congestion. This information may be obtained from the District's Statewide Highway Congestion Monitoring Program (HICOMP) report. Otherwise, field observations would be necessary to determine vehicle hours of delay.

\*Delay is defined as the difference in travel time between the congested speed and 35-mph. Recurrent congestion occurs when speeds are at 35 mph or less on incident-free weekdays during rush hours for a time duration of 15 minutes or longer.

### **III. PROJECT ALTERNATIVES**

Describe design and operational details of each alternative, including:

#### **A. Existing Facility**

1. Typical cross section

#### **B. HOV**

1. Typical cross section
2. Buffer type and width
3. Ingress/egress
4. Nonstandard features, if any
5. Enforcement areas
6. Will the facility operate one or both directions?
7. What are the operating times?
8. Minimum vehicle occupancy requirements?

#### **C. Mixed Flow**

1. Typical cross section
2. Nonstandard features, if any

#### **IV. COMPARISON OF ALTERNATIVES**

Discuss the effect of each alternative on congestion, capacity and safety. State assumptions and cite references as necessary. Traffic data may be available on PMCS, TASAS, or may be obtained by field measurement.

**A. Effect on Congestion/Capacity** (In all cases, projected data shall be based on the volumes anticipated 5 years after opening traffic)

**1. Peak Period Volumes** (Show hours used for peak period- AM/PM)

- a. Do Nothing - Show existing and projected peak period volumes for the existing facility.
- b. HOV - Estimate projected peak period volumes based on comparisons and existing similar HOV freeways statewide.
- c. Mixed Flow - Use projected peak period volumes based on the addition of an assumed mixed flow lane.

**2. Persons Moved per Peak Period - Existing and Projected**

- a. Do Nothing - Estimate existing vehicle occupancy distribution and multiply by present peak period volumes to equal total number of persons presently moved during the peak period. Repeat using projected peak period volumes for projected number of persons moved per peak period.
- b. HOV - Estimate vehicle occupancy distribution for both mixed flow and HOV lanes by comparing with existing similar HOV freeways statewide. Multiply each factor by projected peak volumes to estimate total number of persons moved.
- c. Mixed Flow - Use existing vehicle occupancy distribution and multiply by projected peak period flows for mixed flow option.

**3. Peak hour volumes (PHV) and Level of Service (LOS)**  
(Refer to PMCS and the Highway Capacity Manual)

- a. Do Nothing - Calculated existing and projected LOS using the existing and projected PHV.
- b. HOV - Calculate a projected LOS for the HOV lane, and a projected LOS for the remaining mixed flow lanes, using the projected PHV.
- c. Mixed Flow - Calculate a projected LOS for a mixed flow freeway, using the projected PHV.

**B. Effect on Safety****1. Accidents per Million Vehicle Miles (MVM)**

List actual and/or expected accident rates for each alternative.

- a. Do Nothing - Show actual rate for the 12 months prior to projected opening and expected rates for 12 months after projected opening.
- b. HOV - Show expected rate for 12 months after opening by comparing with statewide average.

**V. OTHER CONSIDERATIONS**

- A. Approval of Regional Planning Agencies
- B. Approval of FHWA (if required)
- C. Compliance with Air Quality Management District (AQMD) Regulations

**VI. SUMMARY AND CONCLUSIONS**

- A. Discuss the preferred project based on conclusions drawn from data presented
- B. Summary of Results

## SAMPLE TABLE SUMMARY

ALTERNATIVES	DIRECTION / # LANES	CONGESTION / CAPACITY										SAFETY				
		PEAK PERIOD VOLUMES				PERSONS MOVED / PEAK PERIOD				LEVEL OF SERVICE (LOS) - PEAK HR		ACCIDENTS/MILLION VEHICLE MILES (MVM)				
		EXISTING		PROJECTED		EXISTING		PROJECTED		EXISTING	PROJECTED	ACTUAL	EXPECTED			
		AM	PM	AM	PM	AM	PM	AM	PM							
DO NOTHING	NB/4	22,000	22,000	24,000	24,000	25,300	25,300	27,600	27,600	E	F	.75	.60			
	SB/4	22,000	22,000	24,000	24,000	25,300	25,300	27,600	27,600	E	F					
HOV	NB/ 4+1													MF E	.60	
	SB/ 4+1													HOV B		
														MF E		
														HOV B		
MIXED FLOW	NB/5													F		.60

PEAK PERIOD: AM 6:00 to 9:00  
PM 3:00 to 6:00

Notes:

1. Projected data is based on volumes anticipated 5 years after opening to traffic.
2. Peak period varies according to area.
3. Actual and expected rates shown for Accidents/MVM are yearly rates.  
Expected rates are based on comparisons with similar freeways.

## SUMMARY

ALTERNATIVES	DIRECTION / # LANES	CONGESTION / CAPACITY										SAFETY	
		PEAK PERIOD VOLUMES				PERSONS MOVED / PEAK PERIOD				LEVEL OF SERVICE (LOS) - PEAK HR		ACCIDENTS/MILLION VEHICLE MILES (MVM)	
		EXISTING		PROJECTED		EXISTING		PROJECTED		EXISTING	PROJECTED	ACTUAL	EXPECTED
		AM	PM	AM	PM	AM	PM	AM	PM				
DO NOTHING													
HOV													
MIXED FLOW													

PEAK PERIOD: AM \_\_\_\_ to \_\_\_\_  
PM \_\_\_\_ to \_\_\_\_

Notes:

1. Projected data is based on volumes anticipated 5 years after opening to traffic.
2. Peak period varies according to area.
3. Actual and expected rates shown for Accidents/MVM are yearly rates.  
Expected rates are based on comparisons with similar freeways.